

REMARKS/ARGUMENTS

Initially, Applicants and their attorney wish to thank Examiner Langel for speaking with Applicants' attorney briefly, on March 1, 2004, concerning the final Office Action for the present application. Applicants' attorney found that conversation very helpful.

Claims 1-10, 12-21 and 23 continue to be pending in the present application. Independent Claims 1, 12 and 23 have been amended, by the foregoing amendments, to recite that the first aqueous ammonium phosphate solution has a pH of "less than 2". It is respectfully submitted that no new matter has been introduced into the present application by the foregoing claim amendments.

On pages 2-4 of the Office Action, the Examiner maintained his rejection of Claims 1-10 and 12-21, and also rejected new Claim 23, under 35 U.S.C. § 102(e) as being anticipated by, or in the alternative, under U.S.C. § 103(a) as being unpatentable over Nero, et al. (U.S. Patent Application Publication No. US 2001/0006614). In view of the foregoing claim amendments and the following comments, Applicants respectfully traverse these rejections.

As recited in amended independent Claims 1, 12 and 23, the present invention relates to a process for the recovery of ammonia from a reactor effluent stream comprising, among others, the step of contacting a gaseous reactor effluent stream containing ammonia with a first aqueous ammonium phosphate solution having a pH of less than 2, in a quench zone, to absorb substantially all of the ammonia present in the reactor effluent stream.

As discussed and explained in the specification of the present application, as well as in the previously filed Amendment (August 2003) in connection with the present application, the use a first quench solution having a low pH (for example, 3.5 or less, which necessarily includes a pH of less than 2) will minimize CO₂ absorption which will, in turn, minimize formation of corrosive ammonium carbamate, thereby reducing or eliminating the negative effects caused by the presence of ammonium carbamate in ammonia recovery processes (see present specification, page 5, line 5, Equation 1 and lines 20-21, as well as at page 7, lines 8-16). Moreover, the combination of using a first quenching solution having such a low pH and a stripping gas substantially free of CO₂, as recited in amended independent Claim 1, serves to further minimize absorption of

CO₂ in the ammonia recovery process streams, thereby further minimizing formation of ammonium carbamate.

It is respectfully submitted that Nero, et al. fails to anticipate or make obvious the process of the present invention, as recited in amended independent Claims 1, 12 and 23 because Nero et al. discloses that the suitable range for the N:P ratio of the first solution is from 0.7 to 1.3, which, according to Nero et al., corresponds to a pH of from 2 to 6. In contrast, the process of the present invention, as recited by amended independent Claims 1, 12 and 23, recite the use of a first ammonium phosphate solution having a pH of less than 2.

In view of the fact that Nero et al. does not disclose the use of a first quench solution having a pH of less than 2, nor does it address the problem of reducing the formation of corrosive ammonium carbamates in ammonia recovery processes, it is respectfully submitted that amended independent Claims 1, 12 and 23, as well as Claims 2-10 and 13-21 which depend directly or indirectly therefrom, are allowable over Nero et al.

Applicants and their attorney hereby respectfully request re-examination and allowance of Claims 1-10, 12-21 and 23. If, however, there remain any open issues which the Examiner believes can be resolved by a telephone call, the Examiner is cordially invited to contact the undersigned attorney.

No fees are believed to be due in connection with the submission of this Amendment. However, if any fees, including petition and extension fees, are due in connection with the submission of this Amendment, the Commissioner is hereby authorized to charge them, as well to credit any overpayments, to **Deposit Account No. 18-1850**.

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Respectfully submitted,



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